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# Endemic nephropathy in Yugoslavia

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The details of Ag. Memo. 375 have now been checked following further information from Yugoslavia. Concentrating the investigation on the villages of Brodska Posavine, and using a short series of evaporation measurements made in that area, new threshold values for rainfall were chosen, namely:

80 mm August
60 mm September
30 mm October
20 mm November.

The same factors were used: A, B & C, and a formula for the nine years 1958 - 1966 was tested on the years 1967 - 1969. The new formula was:

Number of deaths = 0.2A + 0.04 (B + C) with the following results:

| Year | Deaths | A | B + C | Estimated | Error |
|---|---|---|---|---|---|
| 1958 | 8 | 26 | 70 | 8.0 | 0 |
| 1959 | 10 | 17.5 | 158 | 9.8 | -0.2 |
| 1960 | 9 | 16 | 140 | 8.8 | -0.2 |
| 1961 | 15 | 32.5 | 204 | 14.7 | -0.3 |
| 1962 | 12 | 46 | 77 | 12.3 | +0.3 |
| 1963 | 16 | 33.5 | 214 | 15.3 | -0.7 |
| 1964 | 17 | 41.5 | 165 | 14.9 | -2.1 |
| 1965 | 14 | 37.5 | 202 | 15.6 | +1.6 |
| 1966 | 12 | 24.5 | 199 | 12.9 | +0.9 |
| Test years: | | | | | |
| 1967 | 10 | 28 | 136 | 11.0 | +1.0 |
| 1968 | 11 | 24.5 | 232 | 13.2 | +2.2 |
| 1969 | 19 | 31 | 237 | 15.7 | -3.3 |

An attempt was made to estimate the number of people reported to be ill from the disease.

If I + D = number of illnesses plus number of deaths in a year
I' = number of illnesses the previous year
and B & C have the same meanings as before. Then for 1958 - 1966 the best fit formula was

$$I + D = 0.5\ I' + 0.17\ (B + C) - 4.3$$

| Data | Year | I' | Estimated I + D | Estimated D | Estimated I | Actual I | Error |
|---|---|---|---|---|---|---|---|
| | 1958 | 23 | 19 | 8 | 11 | 6 | +5 |
| | 1959 | 6 | 26 | 10 | 16 | 13 | +3 |
| | 1960 | 13 | 26 | 9 | 17 | 26 | -9 |
| | 1961 | 26 | 43 | 15 | 28 | 33 | -5 |
| | 1962 | 33 | 26 | 12 | 14 | 17 | -3 |
| | 1963 | 17 | 43 | 15 | 28 | 33 | -5 |
| | 1964 | 33 | 39 | 15 | 24 | 21 | +3 |
| | 1965 | 21 | 40 | 16 | 24 | 14 | +10 |
| | 1966 | 14 | 37 | 13 | 24 | 21 | +3 |
| Test years: | | | | | | | |
| | 1967 | 21 | 30 | 11 | 19 | 14 | +5 |
| | 1968 | 14 | 42 | 13 | 29 | 24 | +5 |
| | 1969 | 24 | 48 | 16 | 32 | 23 | +9 |

The estimated D was found from the previous formula and subtracted from the estimated I + D to give estimated I.

Note: 1965 was a year with a rainless October.

Any comments or suggestions on this paper should be referred to the author.

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